

9 determining cyclic patterns of traffic communication
10 activity, in response to the traffic communications record by
11 determining daily patterns of traffic communication activity; and
12 reducing control communications with the wireless
13 communications network during periods determined to have low
14 traffic communication activity, wherein the control
15 communications between the base station and the mobile station
16 include a slotted mode of operation where the mobile station
17 monitors broadcast messages transmitted at a first periodic rate
18 and, after control communications have been reduced, the mobile
19 station monitors broadcast messages transmitted at a second
20 periodic rate, slower than the first rate.

1 16. (Amended) In a wireless communication networks, a method for
2 adaptively modifying the sleep-mode behavior of a mobile station,
3 wherein the wireless communications network includes a base
4 station to transmit broadcast messages monitored by the mobile
5 station, the method comprising:

6 maintaining a record of traffic communications to a mobile
7 station;

8 determining cyclic patterns of traffic communication
9 activity, in response to the traffic communications record;

10 reducing control communications with the wireless
11 communications network during periods determined to have low
12 traffic communication activity,

13 initiating a mobile station traffic communication;

14 supplying a warning from the base station message service
15 that the initiation of the traffic communication with the mobile
16 station will be delayed.

1 18. (Amended) In a wireless communications network, a system for
2 adaptively modifying the sleep-mode behavior of a mobile station,
3 the system comprising:

4 a mobile station having a wireless communications port to
5 communicate traffic and control communications with the wireless
6 communications network;

7 an interacting memory, microprocessor, and software
8 application of machine executable instructions to maintain a
9 record of mobile station traffic communications and, in response
10 to the traffic communications record, determining cyclic patterns
11 of traffic communication activity, wherein control communications
12 are reduced between the mobile station and the wireless
13 communications network during periods determined to have low
14 traffic communication activity; and

15 a base station to transmit broadcast messages monitored by
16 the mobile station, the base station decreasing the frequency of
17 transmitted broadcast messages when control communications
18 between the wireless communications network and the mobile
19 station are reduced.

1 20. (Amended) The system of Claim 19 wherein the memory maintains
2 a record of communications which include a record of traffic
3 communications to the mobile station over a period of time
4 greater than a day; and

5 wherein the software application determines daily patterns
6 of traffic communication activity from the stored record of
7 traffic communications.
